

CLAIMS:

- 1     1. A composition comprising:
  - 2         a) a white pigment or extended white pigment surface treated with a silane  
3                 having at least one functional group capable of reacting with acids and  
4                         anhydrides;
  - 5         b) at least one polymeric material; and  
6         c) a compatibilizer.
- 1     2. The composition of Claim 1 wherein said silane has the following general  
2     formula:  
3                          $R_xSi(R')_{4-x}$   
4     wherein  
5                 R is a nonhydrolyzable functional group directly or indirectly bonded  
6                 to the silicon atom selected from the group consisting of epoxy, isocyanato,  
7                         mercapto, and mixtures thereof;  
8                 R' is a hydrolyzable group selected from the group consisting of alkoxy,  
9                         halogen, acetoxy or hydroxy or mixtures thereof; and  
10                 x = 1 to 3.
- 1     3. The composition of Claim 1 wherein said pigment is  $TiO_2$ .
- 1     4. The composition of Claim 1 wherein said extended white pigment is selected  
2     from clays, inorganic metal compounds and siliceous materials.  
3
- 1     5. The composition of Claim 1 wherein said compatibilizer comprises copolymers  
2     of ethylene or propylene with anhydride or acid groups which are capable of  
3     reacting with the functional groups of the at least one polymeric material.

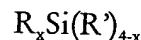
- 1       6. The composition of Claim 1 wherein said compatibilizer comprises copolymers  
2                   selected from the group consisting of ethylene maleic anhydride copolymers,  
3                   ethylene (meth)acrylic acid copolymers, propylene maleic anhydride  
4                   copolymers, propylene acrylic acid copolymers, ethylene propylene  
5                   copolymers with maleic anhydride or acid functional groups, and olefinic  
6                   ionomer resins.
- 1       7. The composition of Claim 1 wherein said compatibilizer is present at a  
2                   concentration of about 0.5wt.% to about 20wt.% based on a total weight of the  
3                   composition.
- 1       8. The composition of Claim 1 wherein said compatibilizer is present at a  
2                   concentration of about 1% to about 10% by weight of the total composition.
- 1       9. The composition of Claim 1 wherein said filler or pigment is present at a  
2                   concentration of about 40wt.% to about 85wt.% based on a total weight of the  
3                   composition.
- 1       10. The composition of Claim 1 further comprising at least one lubricant selected  
2                   from the group consisting of polysiloxanes, silicone fluids, stearates, paraffinic  
3                   oils, fluorocarbon fluids, and mixtures thereof.
- 1       11. The composition of Claim 10 wherein said lubricant is a polysiloxane selected  
2                   from the group consisting of polydimethylsiloxane and organomodified  
3                   polydimethylsiloxane.  
4
- 1       12. The composition of Claim 13 wherein said lubricant is present from about  
2                   0.05wt.% to about 5wt.% based on a total weight of the composition.

1    13. The composition of Claim 1 wherein said silane is present on the surface of said  
2        pigment or extended white pigment in an amount of about 0.1wt.% to about  
3        5wt.% based on a weight of said pigment or extended white pigment.

1 14. The composition of Claim 1 wherein said polymeric material is selected from  
2 the group consisting of olefins and alphaolefins and their copolymers and  
3 terpolymers, rubbery block copolymers, polyamides, polyesters, vinylic  
4 polymers, acrylics, epoxies, ionomeric resins, and mixtures thereof

1 15. The composition of Claim 14 wherein said polymeric material is selected from  
2 the group consisting of polyethylene, ethylene copolymers, polypropylene,  
3 propylene copolymers, and mixtures thereof.

1    16. A white pigment surface treated with at least one silane capable of reacting with  
2           acids and anhydrides and having the following general structure:



wherein

R is a nonhydrolyzable functional group directly or indirectly bonded to the silicon atom selected from the group consisting of epoxy, isocyanato, mercapto, and mixtures thereof;

R' is a hydrolyzable group selected from the group consisting of alkoxy, halogen, acetoxy or hydroxy or mixtures thereof; and

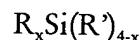
10 x = 1 to 3.

1 17. The white pigment of Claim 16 wherein said white pigment is selected from  
2 the group consisting of clays, inorganic metal compounds and siliceous  
3 materials.

1       18. The white pigment of Claim 16 wherein said white pigment is selected from  
2           the group aluminum trihydroxide, magnesium hydroxide, calcined clay,  
3           nanoclay, kaolin clay, oxidized brass, oxidized aluminum, oxidized steel,  
4           alumina, aluminum trihydrate, fumed silica, precipitated silica, silica aerogels,  
5           silica xerogels, aluminum silicates, calcium magnesium silicates, asbestos,  
6           molecular sieves, Wollastonite, calcium carbonate, titanium dioxide, calcium  
7           sulphate, magnesium sulfate, calcium carbonates having a silica coating, calcium  
8           carbonates agglomerated to silica, and mixtures thereof.

1       19. The white pigment of Claim 16 wherein said white pigment is  $TiO_2$ .

1       20. A white pigment or extended white pigment having enhanced processability  
2           and dispersion in polymeric material surface treated with a silane having a  
3           structure of:



5           wherein

6           R is a nonhydrolyzable functional group directly or indirectly bonded  
7           to the silicon atom selected from the group consisting of epoxy, isocyanato,  
8           mercapto, and mixtures thereof;

9           R' is a hydrolyzable group selected from the group consisting of alkoxy,  
10          halogen, acetoxy or hydroxy or mixtures thereof; and

11          x = 1 to 3; and

12          a polysiloxane having a structure of:



14          wherein

15          R'' is an organic or an inorganic group;

16          n is 0 to 3; and

17          m is equal to or greater than 2.

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